

Geometry 1.2 Study Guide: Measuring and Constructing Segments (pp 13-16)

Attendance Problems

Simplify.

1. $7 - (-3)$

2. $-1 - (-13)$

3. $|-7 - 1|$

Solve each equation.

4. $2x + 3 = 9x - 11$

5. $3x = 4x - 5$

6. How many numbers are there between $\frac{1}{2}$ and $\frac{3}{4}$?

Use length and midpoint of a segment.
Construct midpoints and congruent segments.

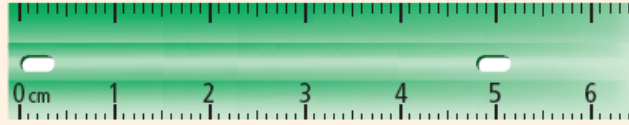
Common Core: CC.9-12.G.CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometry software, etc.).

Refer to page 12.

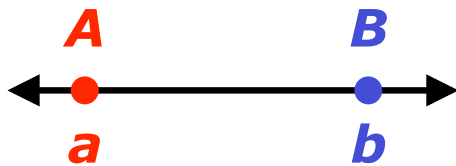
A ruler can be used to measure the distance between two points. A point corresponds to one and only one number on a ruler. The number is called a **coordinate**. The following postulate summarizes this concept.

Postulate 1-2-1 Ruler Postulate

The points on a line can be put into a one-to-one correspondence with the real numbers.



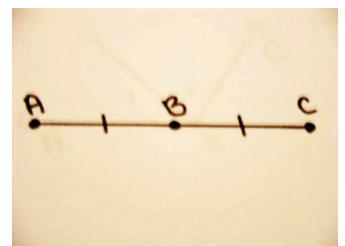
The **distance** between any two points is the absolute value of the difference of the coordinates. If the coordinates of points A and B are a and b , then the distance between A and B is $|a - b|$ or $|b - a|$. The distance between A and B is also called the **length** of \overline{AB} , or AB .



$$AB = |a - b| \text{ or } |b - a|$$

Refer to example 1 on page 13.

7. What are congruent segments?
8. What is the symbol for congruent?
9. In a diagram, how do you show two segments are congruent?



You can make a sketch or measure and draw a segment. These may not be exact. A **construction** is a way of creating a figure that is more precise. One way to make a geometric construction is to use a compass and straightedge.

Refer to video example 2.

In order for you to say that a point B is **between** two points A and C , all three points must lie on the same line, and $AB + BC = AC$.

Postulate 1-2-2 Segment Addition Postulate

If B is between A and C ,
then $AB + BC = AC$.



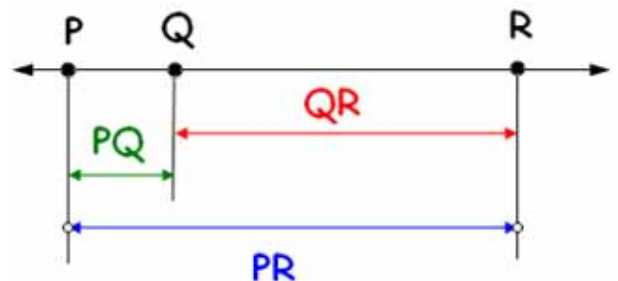
Refer to example 3 on page 15.

10. What is a midpoint?

Refer to example 4 on page 15.

Refer to example 5 on page 16.

Assignment: (pp 17-18) 12-22 even, 31.



Thus, $PQ + QR = PR$